Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. (Currently Amended) A waveguide, comprising:

a first portion extending along a waveguide axis comprising a first chalcogenide glass; and

a second portion extending along the waveguide axis comprising a second chalcogenide glass, wherein the second chalcogenide glass is different from the first chalcogenide glass, wherein the waveguide is a photonic crystal fiber and the waveguide has a loss coefficient less than about 2 dB/m for electromagnetic energy having a wavelength of about 10.6 microns.

2. . (Original) The waveguide of claim 1, wherein the first chalcogenide glass has a different refractive index than the second chalcogenide glass.

3. (Original) The waveguide of claim 1, wherein the first chalcogenide glass comprises As and Se.

4. (Original) The waveguide of claim 3, wherein the first chalcogenide glass comprises As_2Se_3.

5. (Original) The waveguide of claim 3, wherein the first chalcogenide glass further comprises Pb, Sb, Bi, I, or Te.

6. (Original) The waveguide of claim 1 or 3, wherein the second chalcogenide glass comprises As and S.

7. (Original) The waveguide of claim 6, wherein the second chalcogenide glass comprises As_2S_3.

8. (Original) The waveguide of claim 1 or 3, wherein the second chalcogenide glass comprises P and S.

9. (Original) The waveguide of claim 8, wherein the second chalcogenide glass further comprises Ge or As.

10. (Original) The waveguide of claim 1, further comprising a hollow core.

11. (Original) The waveguide of claim 1, wherein the first chalcogenide glass has a refractive index of 2.7 or more.

12. (Original) The waveguide of claim 11, wherein the second chalcogenide glass has a refractive index of 2.7 or less.

13. (Original) The waveguide of claim 1, wherein the first chalcogenide glass has a T_g of about 180°C or more.

14. (Original) The waveguide of claim 13, wherein the second chalcogenide glass has a T_g of about 180°C or more.

15. Cancelled

16. (Original) The waveguide of claim 1, wherein the first portion surrounds a core.

17. (Original) The waveguide of claim 16, wherein the second portion surrounds the core.

18. (Original) The waveguide of claim 16, wherein the second portion surrounds the first portion.

19. (Original) The waveguide of claim 16, wherein the core has a minimum cross-sectional dimension of at least about 10 λ, where λ is the wavelength of radiation guided by the waveguide.

20. (Original) The waveguide of claim 19, wherein the minimum cross-sectional dimension of the core is at least about 20 λ.

21. (Original) The waveguide of claim 16, wherein the core has a minimum cross-sectional dimension of at least about 50 microns.

22. (Original) The waveguide of claim 21, wherein the core has a minimum cross-sectional dimension of at least about 100 microns.

23. (Original) The waveguide of claim 22, wherein the core has a minimum cross-sectional dimension of at least about 200 microns.

24. Cancelled.

25. (Previously Presented) The waveguide of claim 1, wherein the photonic crystal fiber comprises a confinement region and the first and second portions are part of the confinement region.

26. (Previously Presented) The waveguide of claim 1, wherein the photonic crystal fiber is a Bragg fiber.

27. (Currently Amended) A method comprising:

providing a waveguide comprising a first portion extending along a waveguide axis including a first chalcogenide glass and a second portion extending along the waveguide axis; and

guiding electromagnetic energy from a first location to a second location through the waveguide,

wherein the waveguide is a photonic crystal fiber and the electromagnetic energy has a power of more than about one Watt at the second location.

28. (Original) The method of claim 27, wherein the second portion includes a second chalcogenide glass different from the first chalcogenide glass.

29. (Original) The method of claim 27, wherein the electromagnetic energy has a wavelength of between about 2 microns and 15 microns.

30. Cancelled.

31. (Currently Amended) The method of claim 27 [[30]], wherein the electromagnetic energy has a power of more than about 10 Watts.

32. (Original) The method of claim 31, wherein the electromagnetic energy has a power of more than about 100 Watts.

33. (Original) The method of claim 27, further comprising coupling the electromagnetic energy from a laser into the waveguide.

34. (Original) The method of claim 33, wherein the laser is a CO_2 laser.

35. Cancelled.

36. (Currently Amended) The method of claim [[~~35~~]] 27, wherein the photonic crystal fiber is a Bragg fiber.

37-54. Cancelled.

55. Cancelled.

56. (Currently Amended) The waveguide of claim 1 [[55]], further comprising a third portion extending along the waveguide axis comprising a third chalcogenide glass different from the second chalcogenide glass.

57. (Currently Amended) The waveguide of claim 1 [[56]], wherein the third chalcogenide glass is the same as the first chalcogenide glass.

58. Cancelled.

59. (Currently Amended) The waveguide of claim 1 [[58]], wherein the photonic crystal fiber comprises a confinement region that includes the second portion.

60-61. Cancelled.

62. (Currently Amended) The waveguide of claim 1 [[55]], wherein the second portion has an annular cross-section.

63. (Previously Presented) The waveguide of claim 62, wherein the first portion has an annular cross-section.

64. (Currently Amended) The waveguide of claim 1 [[55]], further comprising one or more additional portions extending along the waveguide axis positioned between the first and second portions.

65. (New) A waveguide, comprising:

a core extending along a waveguide axis;

a first portion extending along the waveguide axis comprising a first chalcogenide glass, where the first portion surrounds the core; and

a second portion extending along the waveguide axis comprising a second chalcogenide glass,

wherein the second chalcogenide glass is different from the first chalcogenide glass, the waveguide is a photonic crystal fiber, and the core has a minimum cross-sectional dimension of at least about 10 λ, where λ is the wavelength of radiation guided by the waveguide.

66. (New) A method comprising:

providing a waveguide comprising a first portion extending along a waveguide axis including a first chalcogenide glass and a second portion extending along the waveguide axis;

coupling electromagnetic energy from a laser into the waveguide; and

guiding the electromagnetic energy from a first location to a second location through the waveguide,

wherein the waveguide is a photonic crystal fiber and the laser is a CO_2 laser.

67. (New) The waveguide of claim 25, wherein a radial section from the waveguide axis extending through the confinement region intersects the first portion and the second portion.

68. (New) An endoscope comprising the waveguide of claim 1.